

#9

## FIG. 1a

970 AGGTTTACCG TCCAAATGGC	980 CATTTTGACA GTAAACTGT	990 CTAGATGGCA GATCTACCGT	1000 TCCGTCCCAC AGGCAGGGTG	1010 GGGTAGCAGG CCCATCGTCC	1020 TCATGAAGCT AGTACTTCGA
1030 GACCAAGGCA CTGGTTCCGT	1040 AGTCCTTTCA TCAGGAAAGT	1050 GGGGGAAGAA CCCCCTTCTT	1060 AATCAGGAAA TTAGTCCTTT	1070 AAAAAAATT TTTTTTTAA	1080 TTAGAAGCAT AATCTTCGTA
1090 TTCAAGAAGC AAGTTCTTCG	1100 AAGATGGAAT TTCTACCTTA	1110 ATTTGTACAA TAAACATGTT	1120 AACAGGTGCT TTGTCCACGA	1130 TTCTCCCCCA AAGAGGGGGT	1140 CCATGCGACC GGTACGCTGG
1150 CGGGAGCTCC GCCCTCGAGG	1160 ACTGATATGG TGACTATACC	1170 ACAGAATAGC TGTCTTATCG	1180 TTTACAGCTA AAATGTGCGT	1190 CATTCAAAC GTAAGTTTTG	1200 ACACACACAC TGTGTGTGTG
1210 ACACACACAC TGTGTGTGTG	1220 ACACACACAC TGTGTGTGTG	1230 ACACACACAC TGTGTGTGTG	1240 ACACACACAT TGTGTGTGTA	1250 GTTTTCTTCC CAAAAGAAGG	1260 CTCCCTCCAC GAGGGACCTC
1270 TTCCTCCCAT AAGGAGGGTA	1280 TCTCTGTGGT AGAGACACCA	1290 CCCAAAGAGA GGGTTTCTCT	1300 TGACCATATT ACTGGTATAA	1310 GACTGTAGAA CTGACATCTT	1320 ATCACACCAC TAGTGTGGTG
1330 CATAAAGCC GTATTTTCGG	1340 CATCTGGGAG GTAGACCCTC	1350 CCATTTCCAG GGTAAAGGTC	1360 ACTGATCTTT TGACTAGAAA	1370 TTATCATTA AATAGTAATT	1380 GGTTTGAATT CCAAACTTAA
1390 CTTGCCACGT GAACGGTGCA	1400 GTGGGTTTTA CACCCAAAT	1410 AGGTTTTTAG TCCAAAATC	1420 GGATTTTAT CCTAAAATA	1430 CTAGCGGCAC GATCGCGTG	1440 TCACCTGCTT AGTGGACGAA
1450 CCCTGTGAAT GGGACACTTA	1460 GTTTCAGAATT CAAGTCTTAA	1470 CACTGGGCTT GTGACCCGAA	1480 GGTCAGCTAA CCAGTCGATT	1490 TGGAATGAT ACCTTTACTA	1500 CTATGGTTTG GATACCAAAC
1510 ACTTAAATGT TGAATTTACA	1520 GAAAGGAAAA CTTTCTTTT	1530 AAAAGAAGGG TTTTCTTCCC	1540 GGAAAAGGAG CCTTTTCTC	1550 GGAGGGAGAA CCTCCCTCTT	1560 AGAGGGGAG TCTCCCCTTC
1570 GGAAACTGC CCTTTTGACG	1580 CTTTTATGCC GAAAATACGG	1590 TATTGCTACT ATAACGATGA	1600 CTAACATTTT GATTGTAAAA	1610 GTCTCTCACC CAGAGAGTGG	1620 TTCCACTTGG AAGGTGAACC
1630 TTCTTCAATG AAGAAGTTAC	1640 GAAAGACTGG CTTTCTGACC	1650 ATAGAAAGCT TATCTTTTGA	1660 GGGAGCCAGC CCCTCGGTCTG	1670 CAGGGATAGG GTCCCTATCC	1680 AGGAGTGTGT TCCTCACACA
1690 GTGTGTGTGG CACACACACC	1700 GGGGGGGTGG CCCCCCCACC	1710 GCAGCAAGCA CGTCGTTCTG	1720 GAGCCTTAGA CTCGGAATCT	1730 GACAGAGAAG CTGTCTCTTC	1740 AGCCTGCTAG TCGGACGATC
1750 AGAYCATGAG TCTRGTAATC	1760 CTTYCTTTGA GAARGAACT	1770 GACCCCTAGT CTGGGGATCA	1780 GCTAACAGGA CGATTGTCCT	1790 ATAGTTCCTA TATCAAGGAT	1800 ACCAGGTAGC TGGTCCATCG
1810 TGTGGTCACG ACACCAGTGC	1820 TGAATCGGCT ACTGAGCCGA	1830 GGAAGSCCTG CCTTCSGGAC	1840 GCTTTGTCTT CGAAACAGAA	1850 TTTGCTTGCT AAACGAACGA	1860 GTGCAGCCTT CACGTGCGAA

# FIG. 1b

1870 GAACAAACAC CTTGTTTGTG	1880 CCTGGCCTCT GGACCGGAGA	1890 TTGAACCCCA AACTTGGGGT	1900 CTATTTCTCA GATAAAGAGT	1910 GCCCTCAGAT GGGAGTCTA	1920 GAAGAAATAA CTTCTTCATT
1930 TGGTACCTTG ACCATGGAAC	1940 GAGGATACTG CTCCTATGAC	1950 ATGGGTTCAG TACCCAAGTT	1960 GTGAACTAGG CACTTGATCC	1970 GCAGAGGGTG CGTCTCCAC	1980 GAAGGTTTTG CTTCCAAAAC
1990 TAACCATAAA ATTGGTATTT	2000 CTGAAGTGGG GACTTCACCC	2010 GTGTTGGTTA CACAAACCAAT	2020 GTAAGTAGCC CATTCATCGG	2030 ATGAATACCA TACTTATGGT	2040 TAAAAATATC ATTTTTATAG
2050 TGTCAGGTGG ACAGTCCACC	2060 CCAGAGCATC GGTCTCGTAG	2070 ACTGTGTTCA TGACACAAGT	2080 GAACACAACG CTTGTGTTGC	2090 GCCCCACTCAG CGGGTGAGTC	2100 AACACGCGGA TTGTGCGCCT
2110 CAATTGAAAG GTTAACTTTC	2120 GCACCAACCT CGTGGTTGGA	2130 CCGTGCTTCC GGCACGAAGG	2140 TACCCGTTGT ATGGGCAACA	2150 TTTGTTACCG AAACAATGGC	2160 TGTAACGCGA ACATTTGCGT
2170 ACTCAACTCT TGAGTTGAGA	2180 CGGCACCTGAA GCCGTGACTT	2190 CAGGCTTTTG GTCCGAAAAC	2200 CTGCAGACCT GACCTCTGGA	2210 GGGGTCTGGA CCCCAGACCT	2220 GGTGTGTGCT CCACAACAGA
2230 CTGAGACAGG GACTCTGTCC	2240 AAAACATC TTTTGAGTAG	2250 TTGTTACTAT AACAAATGATA	2260 GGCATAGTAG CCGTATCATC	2270 TAACCACGGA ATTGGTGCCT	2280 GCTCTGAGAT CCAGACTCTA
2290 AGCCCTGAGC TCGGGACTCG	2300 TGGTGCCGTT ACCACGGCAA	2310 TAGAAAAGTT ATCTTTTCAA	2320 TGATGCTTTA ACTACGAAAT	2330 GAAAGAAATC CTTCTTTAG	2340 GTGGCTTAAA CACCGAATTT
2350 AGAAGCCTAC TCTTCCGATG	2360 CTGGCATGGG GACCCTACCC	2370 GGCCCATCCT CCGGGTAGGA	2380 CTCCAGCCAT GAGGTCGGTA	2390 CCGAATCTCA GGCTTAGAGT	2400 ATCTGGTCTG TAGACCAGCA
2410 GTGCGTAAGA CACGCATTCT	2420 ATAGAATCCT TATCTTAGGA	2430 CGGAATGGTA GCCTTACCAT	2440 ACCATGTCTT TGGTACAGAA	2450 GCTTTTTCTT CGAAAAAGAA	2460 CTGGGCTTGC GACCCGAACG
2470 TGAGGAAGTC ACTCCTTCAG	2480 CCAGGCAGCG GGTCCCTCGC	2490 TAGACGTCTT ATCTGCAGAA	2500 GGGGGTAGGT CCCCATCCA	2510 CTGGGAAAAA GACCCTTTTT	2520 TCTCCCAAGA AGAGGGTTCT
2530 TTTTAGGAGG AAAATCCTCC	2540 GGCAGGCGGG CCGTCCGCC	2550 GGATGAGAAA CCTACTCTTT	2560 CTTGAGAGTT GAACCTCTAA	2570 CGGTAGATCG GCCATCTAGC	2580 CTGTAGAGCA GACATCTCGT
Punitive transcriptional start site (5'- end of rat brain 5' - race product).					
2590 ACTCAGACAG TGAGTCTGTC	2600 TCGGCGGCCT AGCCGCCGGA	2610 GAAGAGGACT CTTCTCTCTGA	2620 TGTGCAAACA ACACGTTTGT	2630 CTTCCTCTCT GAAGGAGAGA	2640 GGACAAGGAG CCTGTTCTCT
2650 GAATGCAGGA CTTACGTCCT	2660 GGCCACCGCC CCGGTGGCGG	2670 TGCAGTACAT ACGTCATGTA	2680 CTTGAGGTGT GAACCTCACA	2690 TGGAGGGATG ACCTCCCTAC	2700 TGCTGCACT ACGGACGTGA
Corresponds to translational start site in rat/human GLP-2R gene.					
2710 TGTGAAAGGG ACACTTTCCC	2720 CGCCAGAAGG GCGGTCTTCC	2730 ACGAGGCCCC TGCTCCGGGG	2740 AACCAAGCCC TTGTTTCGGG	2750 GGCAGTGCCC CCGTACAGGG	2760 AGTAGATGCA TCATCTACGT
2770 GAGAGCGTCC CTCTCGCAGG	2780 CTGCCCCGGG GACGGGGCCC	2790 CGCACAGTWG GCGTGTCAWC	2800 GGCTCCCTGC CCGAGGGACG	2810 GGCCCAAGGG CCGGGTCCCC	2820 CCTGAGTCTC GGACTCAGAG

FIG. 1c

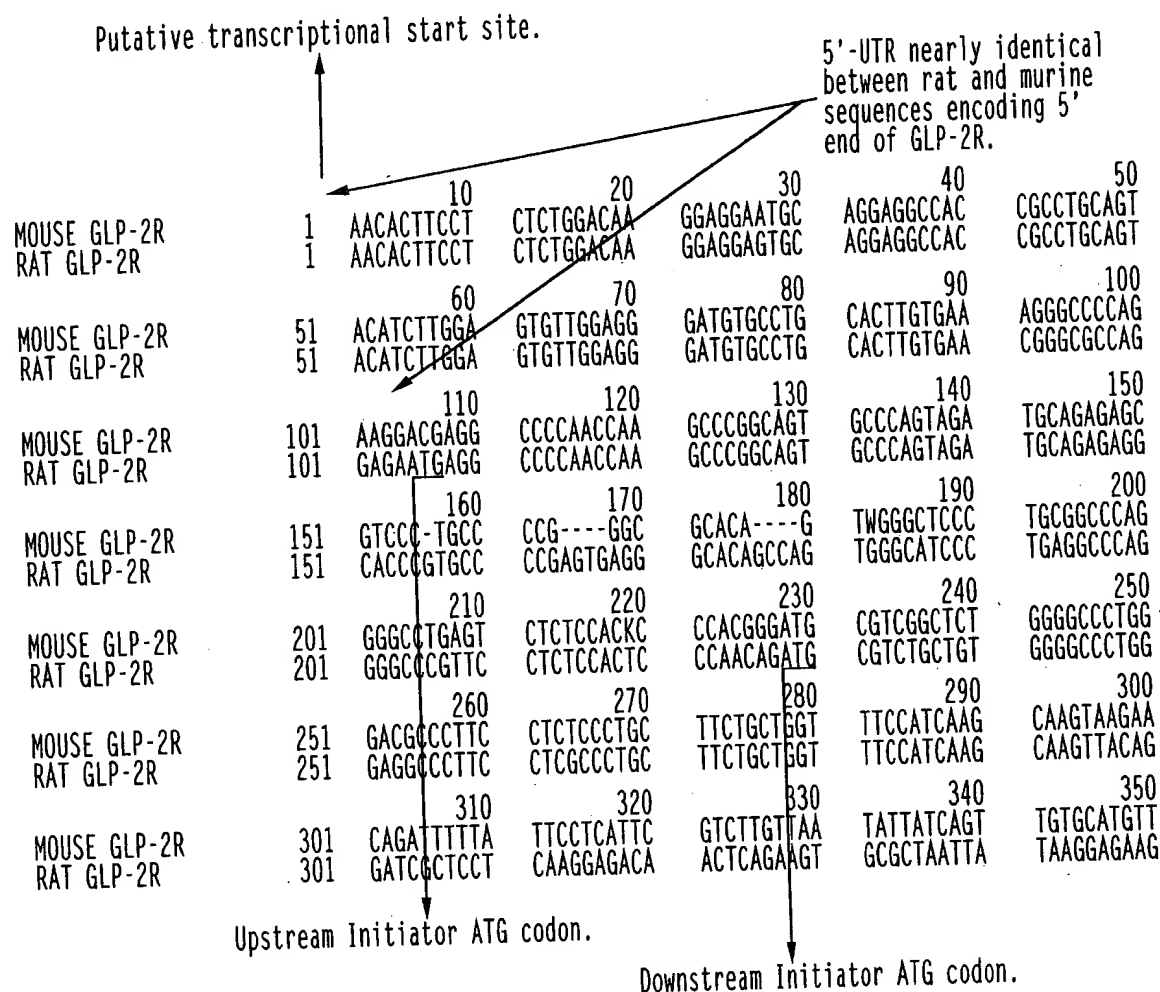
Putative translational start site in murine GLP-2 Receptor gene.

2830 TCCACKCCCA AGGTGMGGGT	2840 CGGGATCGGT GCCCTACGCA	2850 CGGCTCTGGG GCCGAGACCC	2860 GCCCTGGGAC CGGGACCCTG	2870 GCCCTTCCTC CGGGAAGGAG	2880 TCCCTGCTTC AGGGACGAAG
2890 TGCTGGTTTC ACGACCAAAG	2900 CATCAAGCAA GTAGTTCGTT	2910 GTAAGAACAG CATTCTTGTC	2920 ATTTTATTTC TAAAAATAAG	2930 CTCATTTCGTC GAGTAAGCAG	2940 TTGTTAATAT AACAAATTATA
2950 TATCAGTTGT ATAGTCAACA	2960 GCATGTTTTTC CGTACAAAAG	2970 TGAGTGTACA ACTCACATCT	2980 AGCAATTAG TCGTTAAATC	2990 GCCCGGTGTA CGGGGCACAT	3000 GGCAATTGG CCGTTAAACC
3010 GTAAGAATAA CATTCTTATT	3020 AACCATATTA TTGGTATAAT	3030 AGAAAATGAG TCTTTTACTC	3040 GCTCAACCAC CGAGTTGGTG	3050 AACCCAGTA TTGGGGTCAT	3060 GCATTCTGCT CGTAAGACGA
3070 CACTGTTTCAT GTGACAAGTA	3080 ATTTTGGCTG TAAAACCGAC	3090 ATTTTAAAAA TAAAAATTTT	3100 AAATTCTCTT TTTAAGAGAA	3110 TTCTGTGCAT AAGACACGTA	3120 TATTTTACAC ATAAAATGTG
3130 AGCCGAAATT TCGGCTTTAA	3140 ..... .....	3150 ..... .....	3160 ..... .....	3170 ..... .....	3180 ..... .....

3'-End of murine GLP-2 Receptor gene sequenced to date.

**FIG. 2**

Sequence alignment of the 5' end of the mGLP-2 receptor gene with the 5' end of the cDNA encoding the rat GLP-2R.



Sequence alignment of the 5' end of the mGLP-2 receptor gene with the 5' end of the cDNA encoding the rat GLP-2R.

The 5' end of the cDNA encoding the rat GLP-2R (cloned by 5'-RACE) is presented in alignment with the corresponding region of sequence encoding the murine GLP-2R. The upstream initiator ATG codon is present in the rat sequence, and the downstream initiator ATG codon is conserved between in both the rat and murine sequences encoding the GLP-2R. The sequence corresponding to the putative 5'-UTR (untranslated region) is nearly identical between the rat and murine sequences presented.

FIG. 3

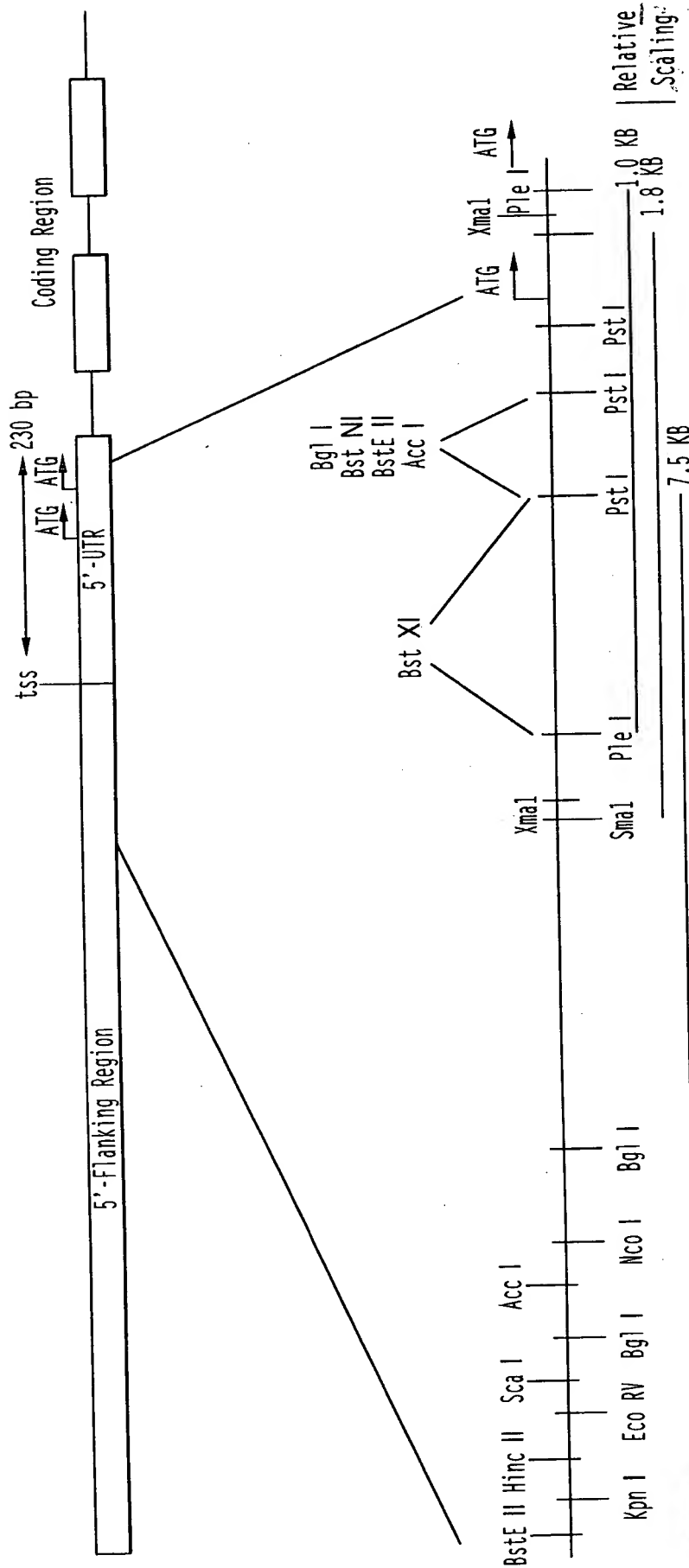
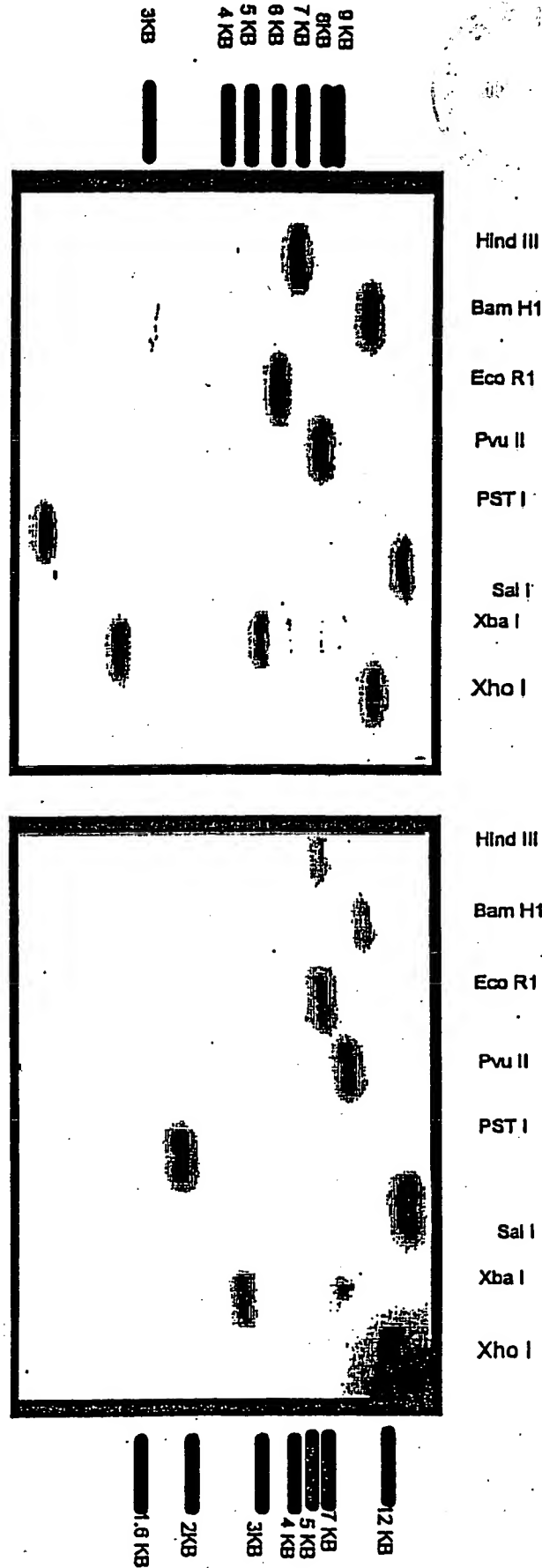
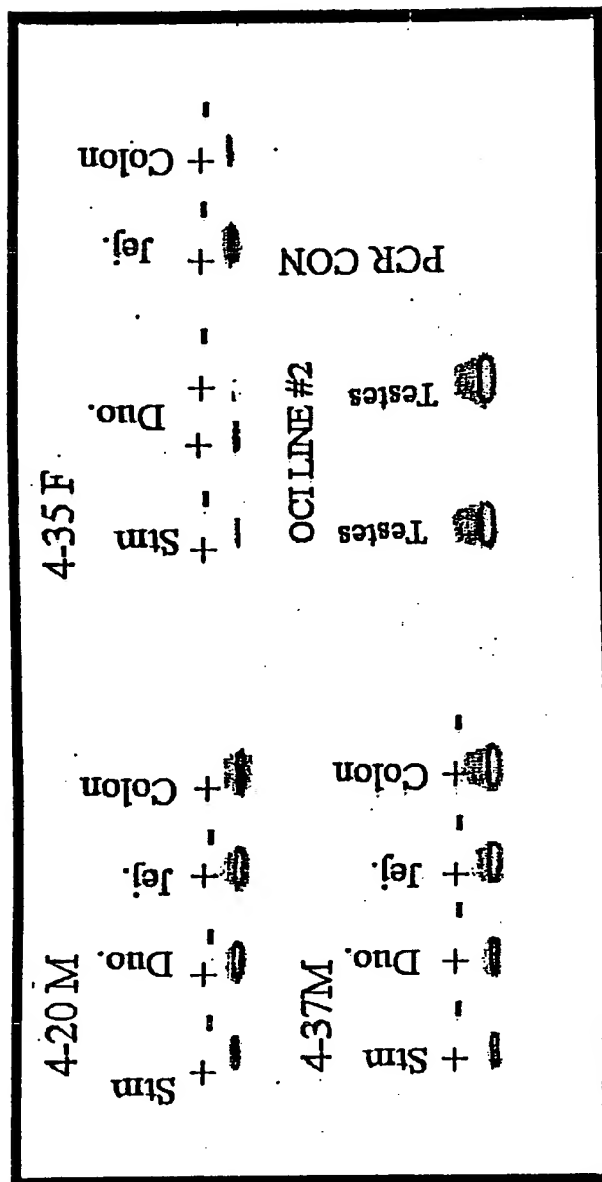


FIG. 4



09833740 102601

FIG. 5



09/833,740

FIG. 6

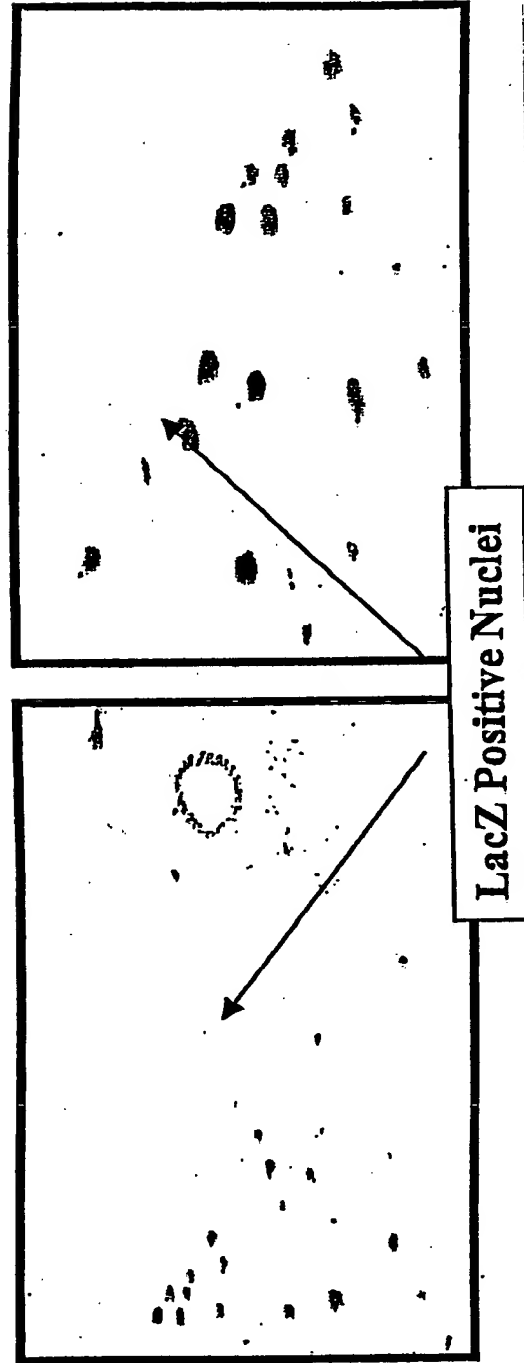




FIG. 7a

rat GLP-2R cDNA	5'-UTR
rat GLP-2R cDNA	5'-end
rat GLP-2R cDNA	5'-UTR

aacacttccct ctctggacaa ggaggagtagc aggaggccac cgcctgcagt acatcttgga gtgttgagg gatgtgccctg cacttgtaa cgggcgccag  
 M R P Q P S P A V P S R C R E A P V P R V R A Q P V  
 gaga ATG AGG CCC CAA CCA AGC CCG GCA GTG CCC AGT AGA TGC AGA GAG GCA CCC GTG AGG GCA CAG CCA GTG  
 G I P E A Q G P V P L H S Q Q M  
 GGC ATC CCT GAG GCC GAG GGG CCC GTT CCT CTC CAC TCC CAA CAG ATG

FIG. 7c

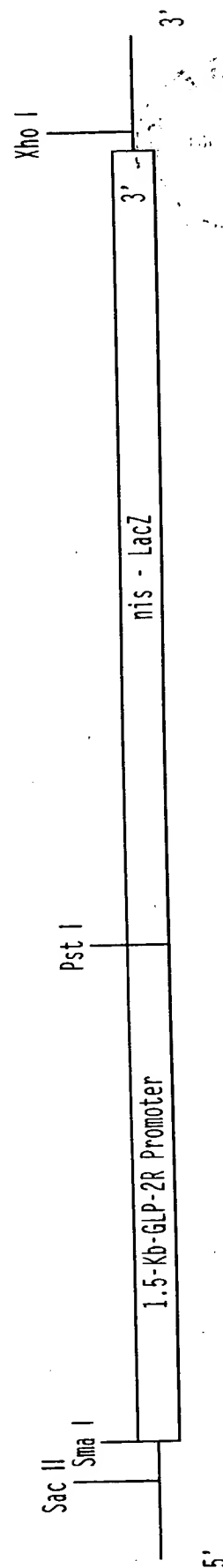


FIG. 7b

mouse GLP-2R  
human GLP-2R  
-203  
atgtcttgc ttttctctg ggcttgcga ggaagtcaca ggcagcgtag acgtcttggg ggtagtctg ggaataatct  
ccgccttggt ctttctctc agcctgtcab ggaagtcaca gaaagcacag ctgacttagg ga-aggctg ggaataatct  
NF-Kappa B  
mouse GLP-2R  
human GLP-2R  
-123  
cccaagattt agaggggca:--ggcggggg; atagaaact tggagattcg gtatagctgt gt---agagc aactcagaca  
ccctgctttt gg-gggggca:ggggcggggg; atagccagg gcgcgagaagg aactctgaag actccgtaga ttgctctaga  
+1  
Spl Sp1 GATA-1  
aacactt cctctctgga caaggaggag tgcaggaggc  
gtcggcgcc -----tgaa gaggaactgt gcaaacactt cctctctgga caaggaggaa tgcaggaggc  
ccgcctcaga cactctcgc gcagcgtgga gaggaactgt gcaaacattt cctctctgga ccaagaggaa tgcaggaggc  
CdXA  
-43  
caccgcc tgca gtacatctt ggagtgttg aggatgtgc ctgcactgt gaacggcgcc caggaga ATG AGG CCC  
caccgcc<sup>ypst</sup>tgca<sup>ypst</sup> gtacatctt ggagtgttg aggatgtgc ctgcactgt gaacggcgcc caggaga ACG AGG CCC  
ggatgcc tgcg gtgcactt ggacggctag agagatgtac ccctacttgt gaagtgac gaggaag ATG AAG CTG  
38  
CAA CCA AGC CCG GCA GTG CCC AGT AGA TGC AGA GAG GCA CCC GTG CCC CGA GTG AGG GCA CAG CCA  
CAA CCA AGC CCG GCA GTG CCC AGT AGA TGC AGA GAG C--- -GT CCC TGC CCC GGG CGC ACA  
GGA TCG AGC AGG GCA GGG CCT GGG AGA GGA AGC GCG GGA CTC CTG CCT GGC GTC CAC GAG CTG CCC  
114  
GTG GGC ATC CCT GAG GCC CAG GGG CCC GTT CCT CTC CAC TCC CAA CAG ATG CGT CTG TGG GGC  
GTW GGG CTC CCT GCG GCC CAG GGG CCT GAG TCT CTC CAC KCC CAC GGG ATG CGT CGG CTC TGG GGC  
ATG GGC ATC CCT GCG CCC TGG GGG ACC AGT CCT CTC TCC TTC CAC AGG AAG TGC TCT CTC TGG GGC  
180 P G T P F L S L L L L V S I K Q  
GCT GGG AGG CCC TTC CTC GCG CTG CTT CTG CTG GTT TCC ATC AAG CAA  
GCT GGG ACG CCC TTC CTC CTC CTT CTG CTG GTT TCC ATC AAG CAA gtaagaacac----- atttttat tctcattc  
GCT GGG AGG CCC TTC CTC CTC ACT CTG GTC CTG GTT TCC ATC AAG CAA gtaagagcagttca ttattattat tattatcag  
246

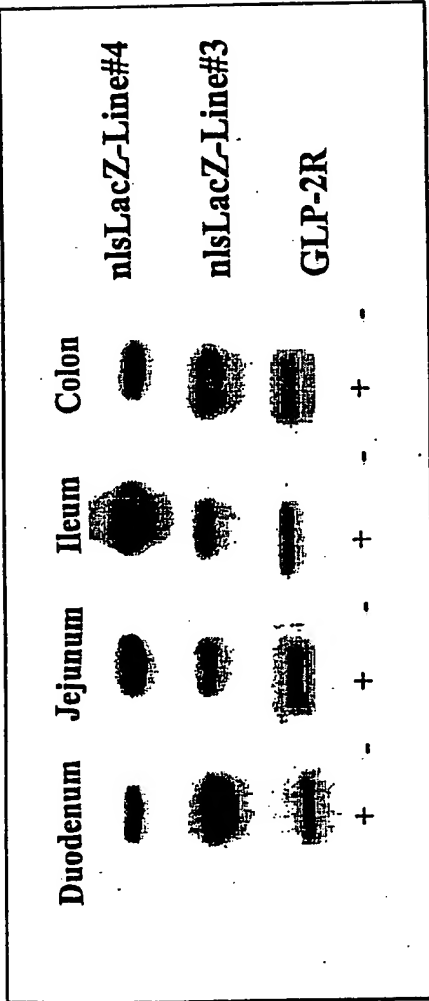


FIG. 8a

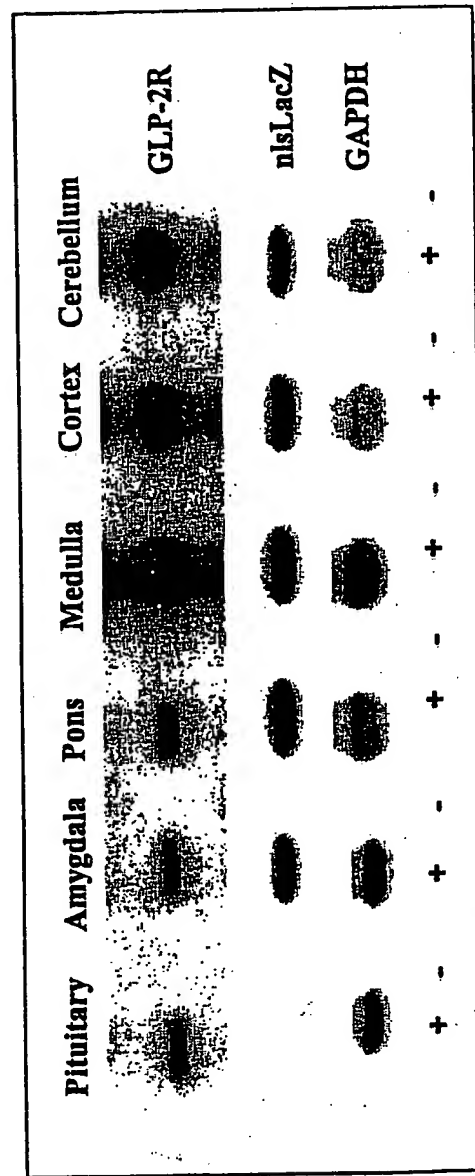
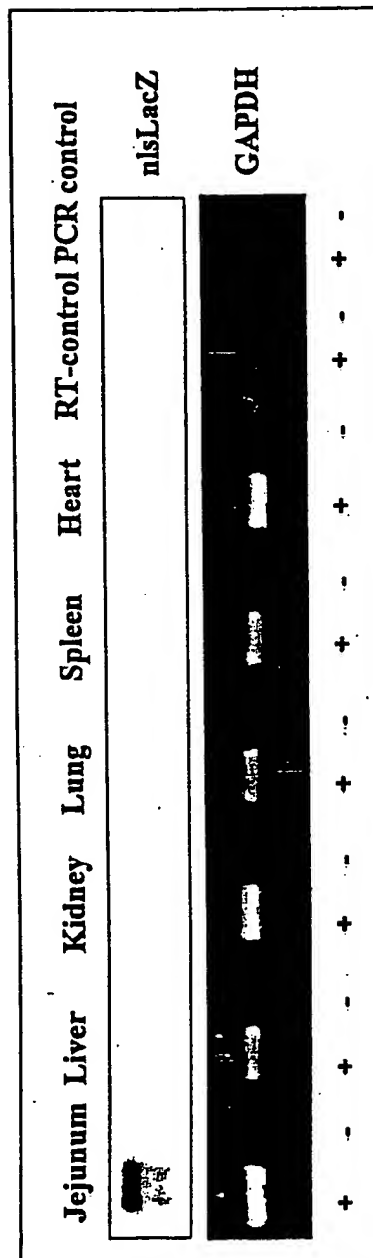
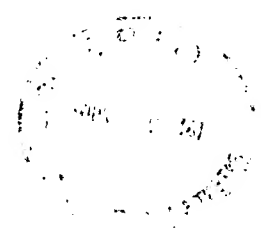


FIG. 8b

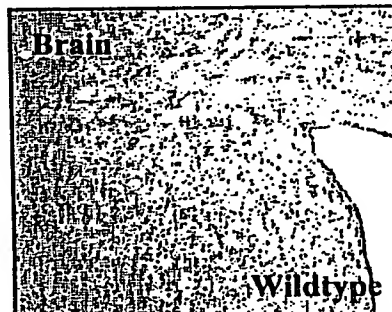
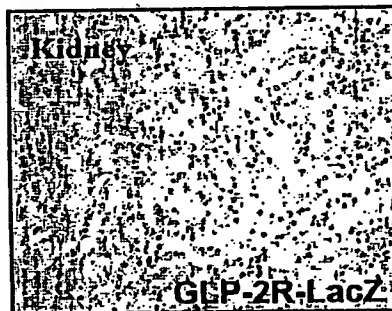
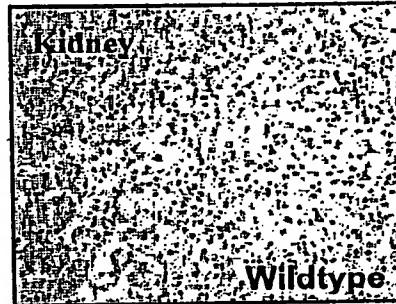


FIG. 8c





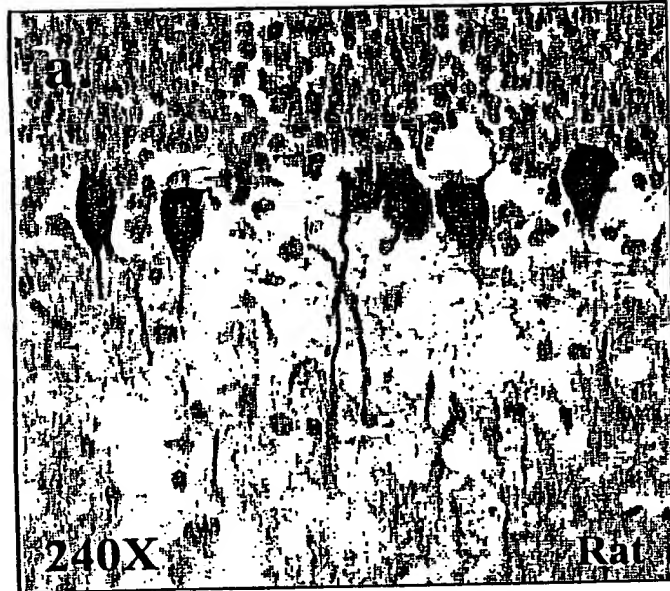
**FIG. 8d**



09/833,740

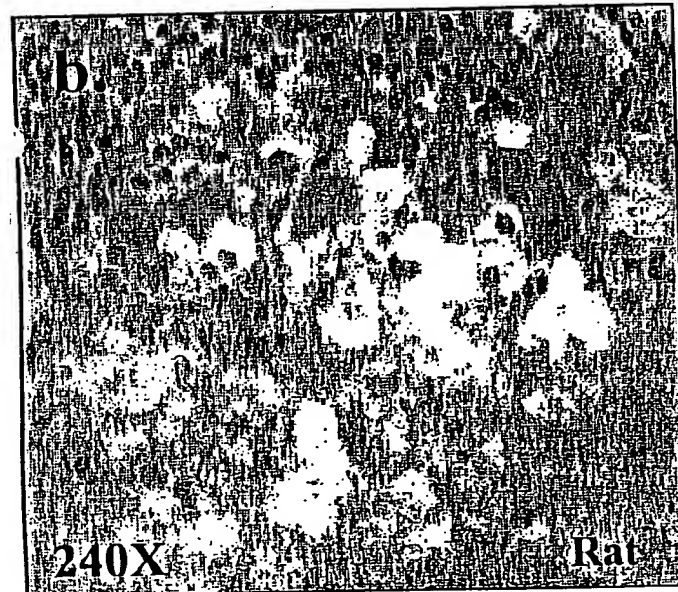
**FIG. 9a**

**GLP-2R**



**FIG. 9b**

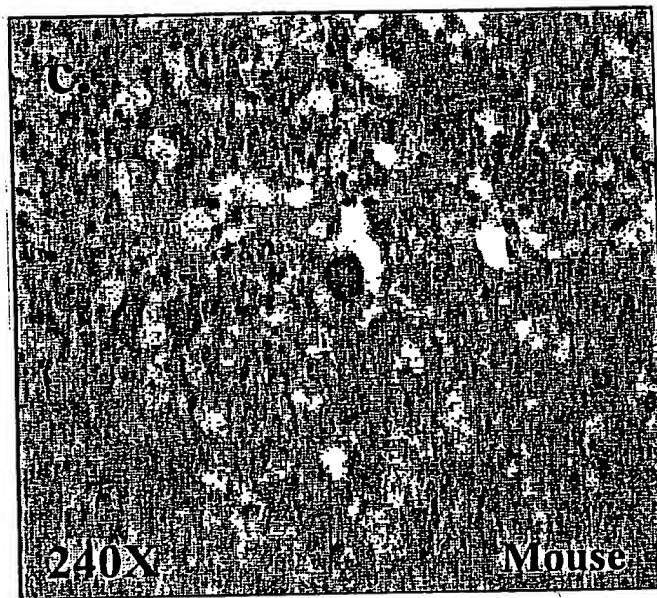
**Preimmune**





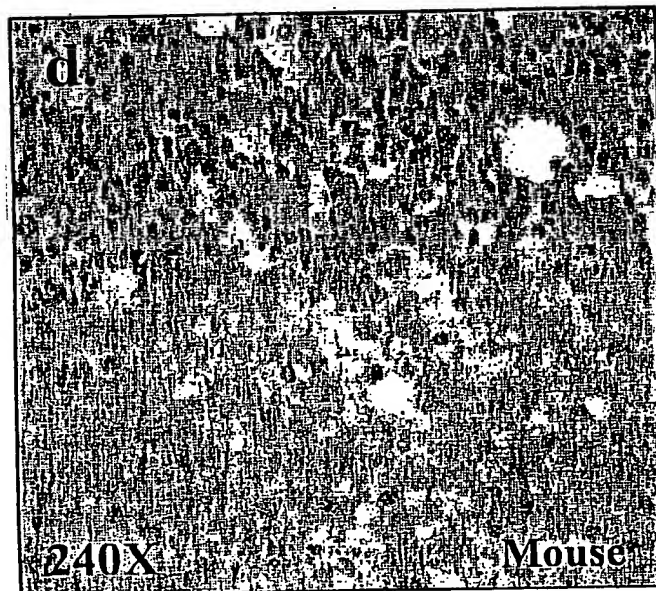
**FIG. 9c**

**GLP-2R**



**FIG. 9d**

**Preimmune**



09833740 101601 2

FIG. 9e

$\beta$ -Galactosidase

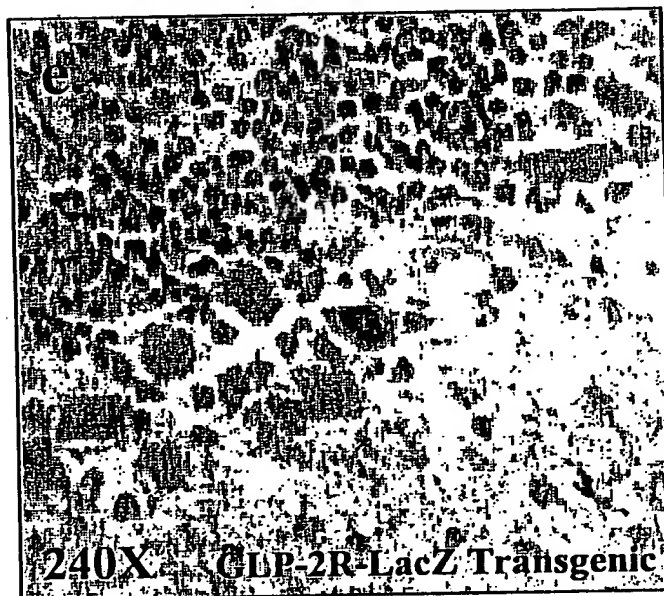
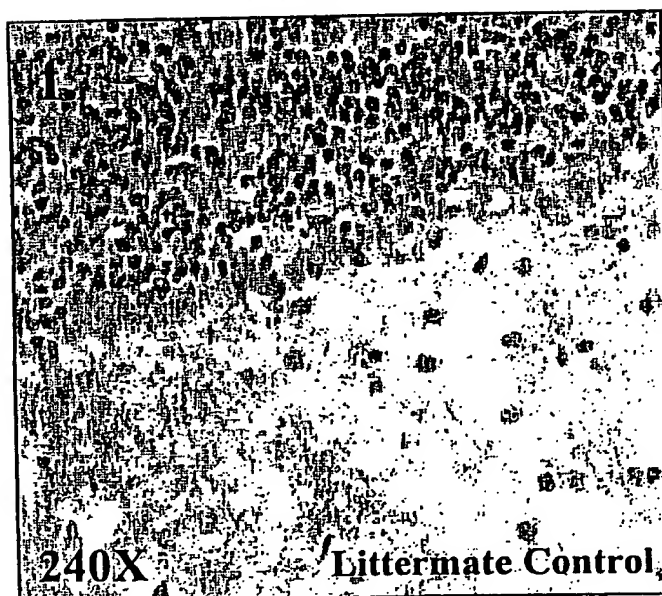


FIG. 9f

$\beta$ -Galactosidase

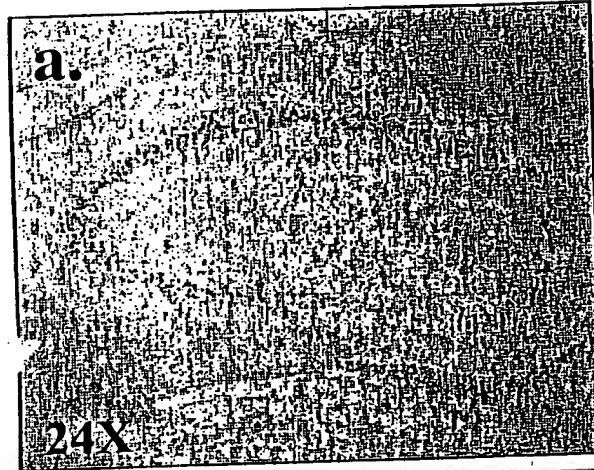


09833740 101801 3



**GLP-2R**

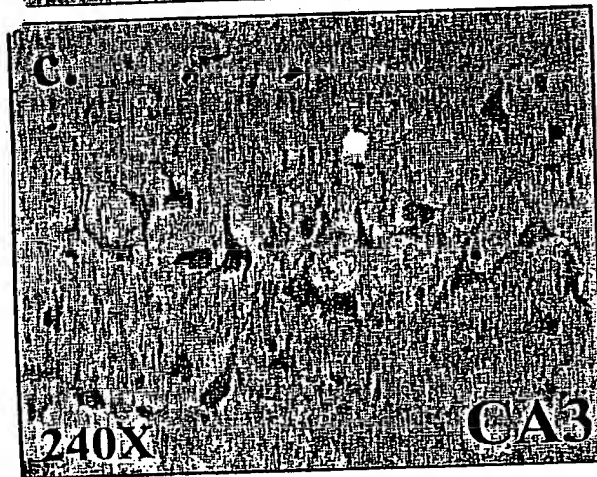
**FIG. 10a**



**FIG. 10b**



**FIG. 10c**



$\beta$ -Galactosidase

FIG. 10d

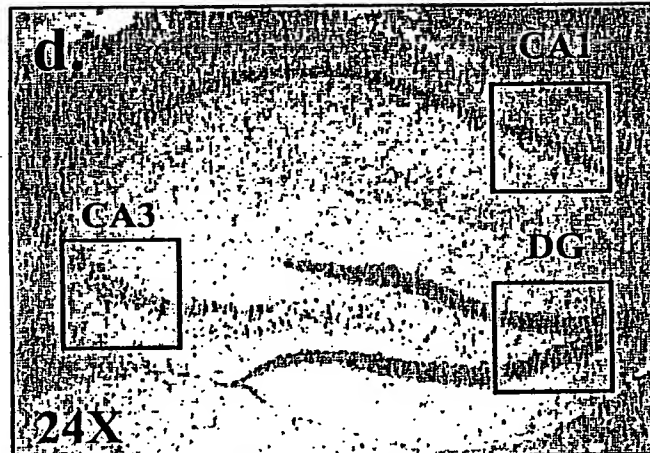


FIG. 10e

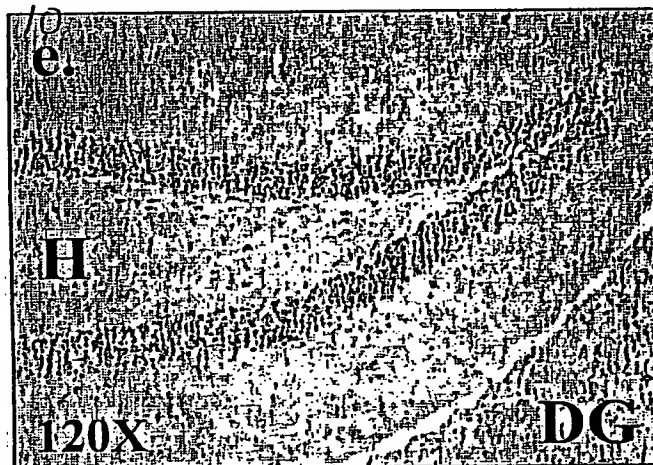
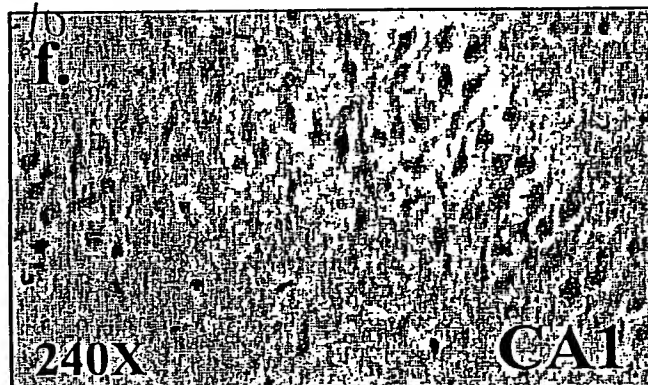


FIG. 10f



$\beta$ -Galactosidase

FIG. 10g

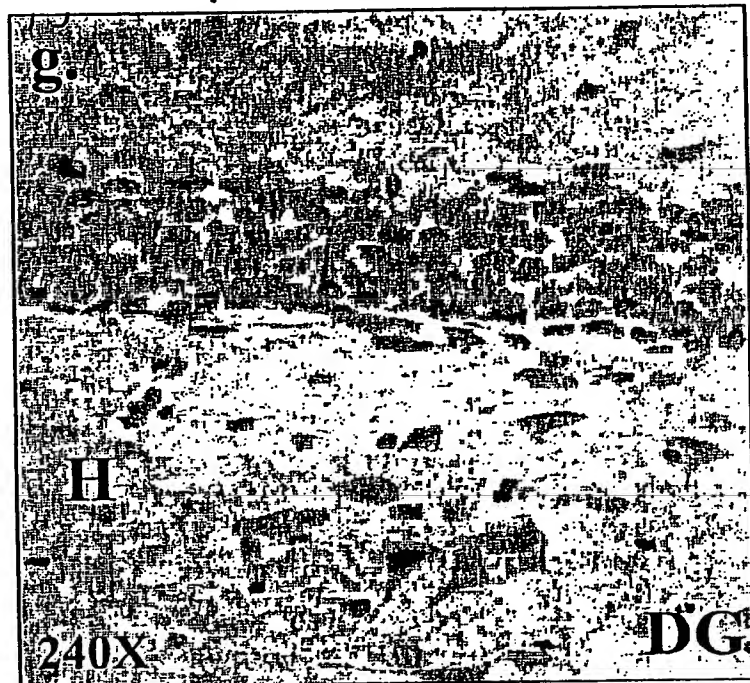
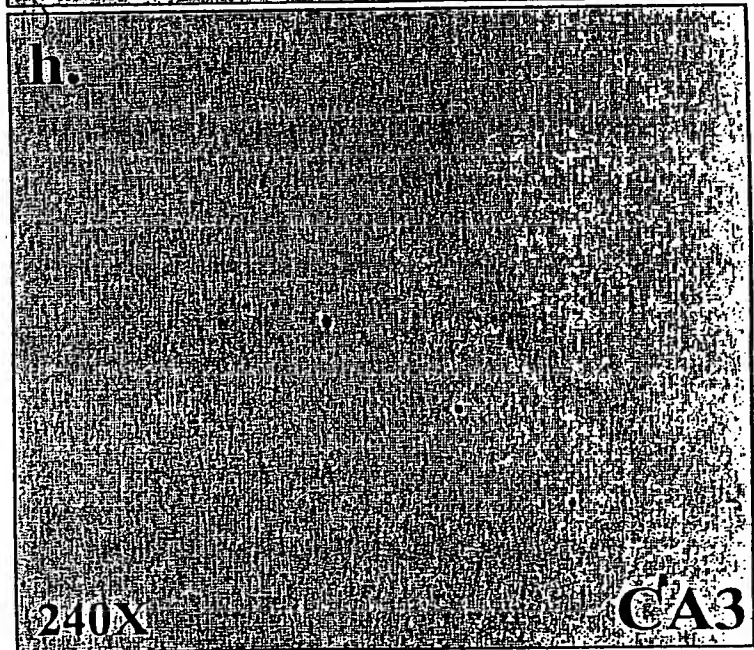
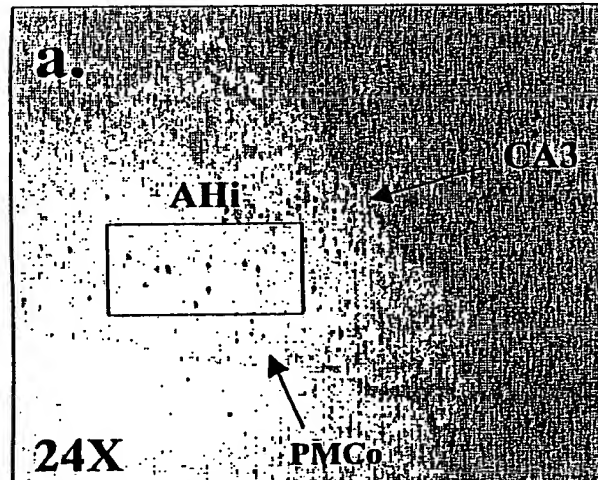


FIG. 10h



**FIG. IIa**



**FIG. IIb**



**FIG. IIc**

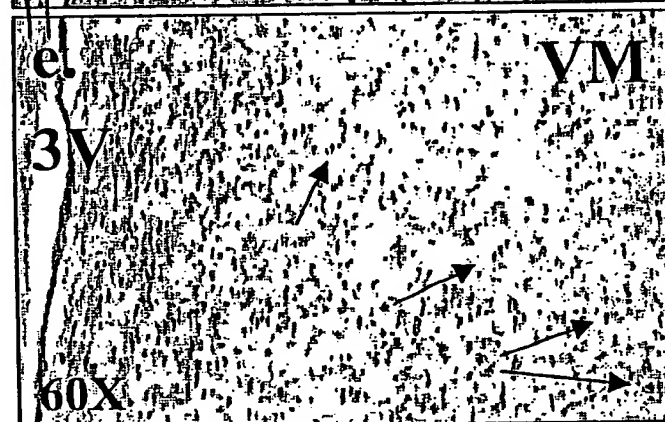


09833740.101B01

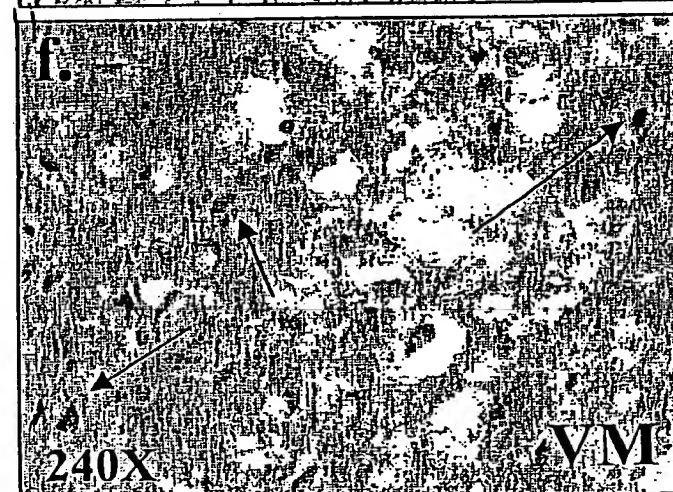
**FIG. II d**



**FIG. II e**



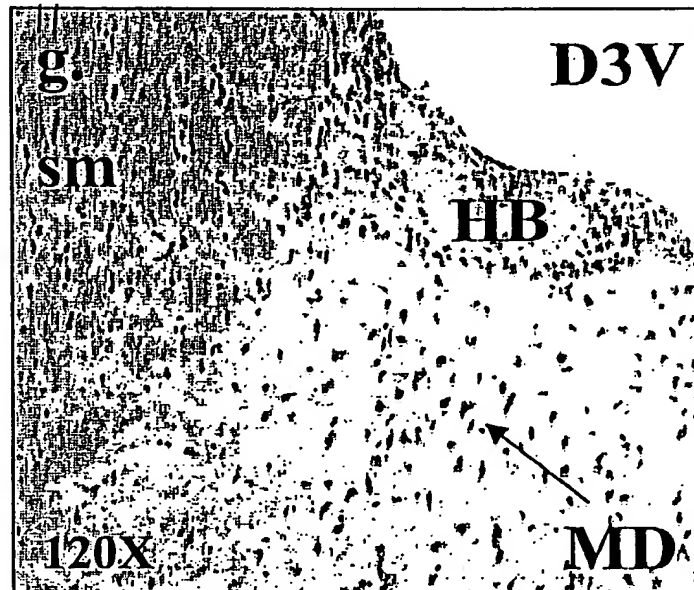
**FIG. II f**



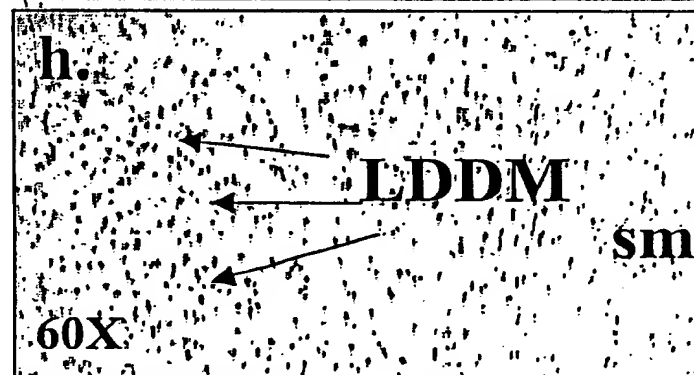
109307 04222860



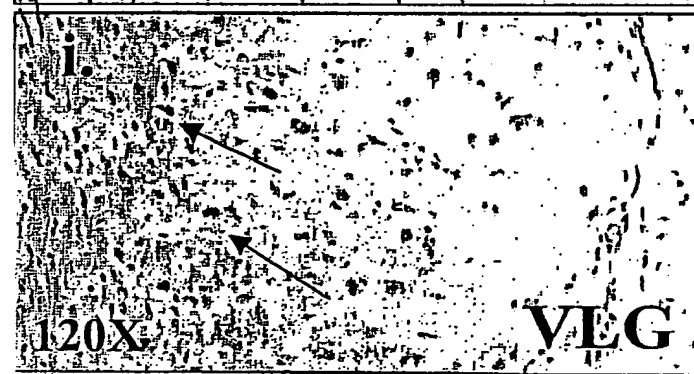
**FIG. IIg**



**FIG. IIh**



**FIG. Iii**



00833740-101B01